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1 AAAAAGAAAG GAAGAAAATG GAAATACAAC AAACACACCG CAAAATCAAT
51 CGCCCTCTGG TTTCTCTCGC TTTAGTAGGA GCATTAGTCA GCATCACACC
101 GCAACAAAGT CATGCCGCCT TTTTCACAAC CGTGATCATT CCAGCCATTG
151 TTGGGGGTAT CGCTACAGGC ACCGCTGTAG GAACGGTCTC AGGGCTTCTT
201 AGCTGGGGGC TCAAACAAGC CGAAGAAGCC AATAAAACCC CAGATAAACC
251 CGATAAAGTT TGGCGCATTC AAGCAGGAAA AGGCTTTAAT GAATTCCCTA
301 ACAAGGAATA CGACTTATAC AGATCCCTTT TATCCAGTAA GATTGATGGA
351 GGTTGGGATT GGGGGAATGC CGCTAGGCAT TATTGGGTCA AAGGCGGGCA
401 ACAGAATAAG CTTGAAGTGG ATATGAAAGA CGCTGTAGGG ACTTATACCT
451 TATCAGGGCT TAGAACTTT ACTGGTGGGG ATTTAGATGT CAATATGCAA
501 AAAGCCACTT TACGCTTGGG CCAATTCAAT GGCAATTCTT TTACAAGCTA
551 TAAGGATAGT GCTGATCGCA CCACGAGAGT GATTTCAACG CTAAAAATAT
601 CTCAATTGAT AATTTTGCAG AAATCAACAA CTCGTGTGGG TTCTGGAGCC
651 GGGAGGAAAG CCAGCTCTAC GGTTTTGACT TTGCAAGCTT CAGAAGGGAT
701 CACTAGCGAT AAAAACGCTG AAATTTCTCT TTATGATGGT GCCACGCTCA
751 ATTTGGCTTC AAGCAGCGTT AAATTAATGG GTAATGTGTG GATGGGCCGT
801 TTGCAATACG TGGGAGCGTA TTTGGCCCCT TCATACAGCA CGATAAACAC
851 TTCAAAAGTA ACAGGGGAAG TGAATTTTAA CCACCTCACT GTTGGCGATA
901 AAAACGCCGC TCAAGCGGGC ATTATCGCTA ATAAAAAGAC TAATATTGGC
951 AACTGGATT TGTGGCAAAG CGCCGGGTTA AACATTATCG CTCCTCCAGA
1001 AGGTGGCTAT AAGGATAAAC CCAATAATAC CCCTTCTCAA AGTGGTGCTA
1051 AAAACGACAA AAATGAAAGC GCTAAAAACG ACAAACAAGA GAGCAGTCAA
1101 AATAATAGTA ACACTCAGGT CATTAAACCA CCAATAGTG CGCAAAAAC
1151 AGAAGTTCAA CCCACGCAAG TCATTGATGG GCCTTTTGCG GCGGGCAAAG
1201 ACACGGTTGT CAATATCAAC CGCATCAACA CTAACGCTGA TGGCACGATT
1251 AGAGTGGGAG GGTTTAAAGC TTCTCTTACC ACCAATGCGG CTCATTTGCA
1301 TATCGGCAAA GCGGGTGTCA ATCTGTCCAA TCAAGCGAGC GGGCGCTCTC

FIG. 1A

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1351 TTATAGTGGA AAATCTAACT GGAATATCA CCGTTGATGG GCCTTTAAGA
1401 GTGAATAATC AAGTGGGTGG CTATGCTTTG GCAGGATCAA GCGCGAATTT
1451 TGAGTTTAAG GCTGGTACGG ATACCAAAAA CGGCACAGCC ACTTTTAATA
1501 ACGATATTAG TCTGGGAAGA TTTGTGAATT TAAAGGTGGA TGCTCATACA
1551 GCTAATTTTA AAGGTATTGA TACGGGTAAT GGTGGTTTCA ACACCTTAGA
1601 TTTTAGTGGC GTTACAGACA AAGTCAATAT CAACAAGCTC ATTACGGCTT
1651 CCACTAATGT GGCCGTAA AACTTCAACA TTAATGAATT GATTGTAA
1701 ACCAATGGGA TAAGTGTGGG GGAATATACT CATTTTAGCG AAGATATAGG
1751 CAGTCAATCG CGCATCAATA CCGTGCGTTT GGAAACTGGC ACTAGGTCAC
1801 TTTTCTCTGG GGGTGTAA TTTAAAGGTG GCGAAAAAT GGTATAGAT
1851 GAGTTTTACT ATAGCCCTTG GAATTATTTT GACGCTAGAA ATATTA
1901 TGTTGAAATC ACCAATAAAC TTGCTTTTGG ACCTCAAGGA AGTCCTTGGG
1951 GCACATCAAA ACTTATGTTC AATAATCTAA CCCTAGGTCA AAATGCGGTC
2001 ATGGATTATA GCCAATTTTT AAATTTAACC ATTCAAGGGG ATTCATCAA
2051 CAATCAAGGC ACTATCAACT ATCTGGTCCG AGGTGGGAAA GTGGCAACCT
2101 TAAGCGTAGG CAATGCAGCA GCTATGATGT TTAATAATGA TATAGACAGC
2151 GCGACCGGAT TTTACAAACC GTCATCAAG ATTAACAGCG CTCAAGATCT
2201 CATTAAAAAT ACAGAACATG TTTTATTGAA AGCGAAAATC ATTGGTTATG
2251 GTAATGTTTC TACAGGTACC AATGGCATTG GTAATGTTAA TCTAGAAGAG
2301 CAATTCAAAG AGCGCCTAGC CCTTTATAAC AACAATAACC GCATGGATAC
2351 TTGTGTGGTG CGAAATACTG ATGACATTAA AGCATGCGGT ATGGCTATCG
2401 GCGATCAAAG CATGGTGAAC AACCCTGACA ATTACAAGTA TCTTATCGGT
2451 AAGGCATGGA AAAATATAGG GATCAGCAAA ACAGCTAATG GCTCTAAAT
2501 TTCGGTGTAT TATTTAGGCA ATTCTACGCC TACTGAGAAT GGTGGCAATA
2551 CCACAAATTT ACCCACAAC AGCACTAGCA ATGCACGTTC TGCCAACAAC
2601 GCCCTTGCAC AAAACGCTCC TTTCGCTCAA CCTAGTGCTA CTCCTAATTT
2651 AGTCGCTATC AATCAGCATG ATTTTGGCAC TATTGAAAGC GTGTTTGAAT

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FIG. 1B

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2701 TGGCTAACCG CTCTAAAGAT ATTGACACGC TTTATGCTAA CTCAGGCGCT
2751 CAAGGCAGGG ATCTCTTACA AACCTTATTG ATTGATAGCC ATGATGCGGG
2801 TTATGCCAGA AAAATGATTG ATGCTACAAG CGCTAATGAA ATCACCAAGC
2851 AATTGAATAC GGCCACTACC ACTTTAAACA ACATAGCCAG TTTAGAGCAT
2901 AAAACCAGCG GCTTACAAAC TTTGAGCTTG AGTAATGCGA TGATTTTAAA
2951 TTCTCGTTTA GTCAATCTCT CCAGGAGACA CACCAACCAT ATTGACTCGT
3001 TCGCCAAACG CTTACAAGCT TTAAAAGACC AAAAATTCGC TTCTTTAGAA
3051 AGCGCGGCAG AAGTGTTGTA TCAATTTGCC CCTAAATATG AAAAACCTAC
3101 CAATGTTTGG GCTAACGCTA TTGGGGGAAC GAGCTTGAAT AATGGCTCTA
3151 ACGCTTCATT GTATGGCACA AGCGCGGGCG TAGACGCTTA CCTTAACGGG
3201 CAAGTGGAAG CCATTGTGGG CGGTTTTGGA AGCTATGGTT ATAGCTCTTT
3251 TAATAATCGT GCGAACTCCC TTAActCTGG GGCCAATAAC ACTAATTTTG
3301 GCGTGTATAG CCGTATTTTA ACCAACCAGC ATGAATTTGA CTTTGAAGCT
3351 CAAGGGGCAC TAGGGAGCGA TCAATCAAGC TTGAATTTCA AAAGCGCTCT
3401 ATTACAAGAT TTGAATCAAA GCTATCATTA CTTAGCCTAT AGCGCTGCAA
3451 CAAGAGCGAG CTATGGTTAT GACTTCGCGT TTTTtagGAA CGCTTTAGTG
3501 TTAAAACCAA GCGTGGGTGT GAGCTATAAC CATTtagGTT CAACCAACTT
3551 TAAAAGCAAC AGCACCAATC AAGTGGCTTT GAAAAATGGC TCTAGCAGTC
3601 AGCATTTATT CAACGCTAGC GCTAATGTGG AAGCGCGCTA TTATTATGGG
3651 GACACTTCAT ACTTCTACAT GAATGCTGGA GTTTTACAAG AGTTCGCTCA
3701 TGTTGGCTCT AATAACGCCG CGTCTTTAAA CACCTTTAAA GTGAATGCCG
3751 CTCGCAACCC TTAAATACC CATGCCAGAG TGATGATGGG TGGGGAATTA
3801 AAATTAGCTA AAGAAGTGTT TTTGAATTTG GGC GTTGT TT ATTTGCACAA
3851 TTTGATTTCC AATATAGGCC ATTTGCTTC CAATTTAGGA ATGAGGTATA
3901 GTTTCTAAAT ACCGCTCTTA AACCCATGCT CAAAGCATGG GTTTGAAATC
3951 TTACAAAACA

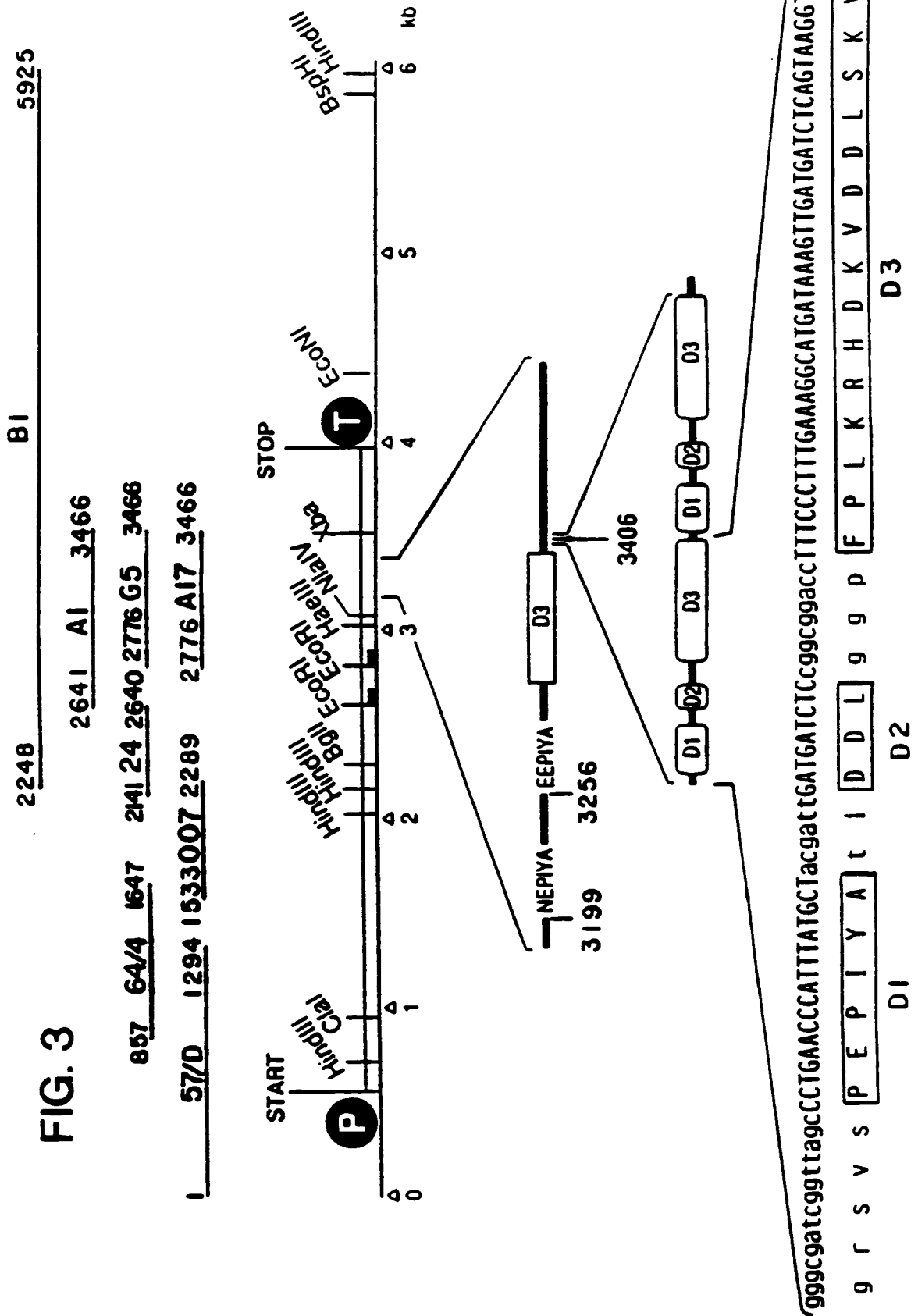
FIG. 1C

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1 MEIQQTHRKI NRPLVSLALV GALVSITPQQ SHAAFFTTVI IPAIVGGIAT
51 GTAVGTVSGL LSWGLKQAE E ANKTPDKPDK VWRIQAGKGF NEFPNKEYDL
101 YRSLSSKID GGWDWGNAAR HYWVKGGQQN KLEVDMKDAV GTYTLISGLRN
151 FTGGDLVDNM QKATLRLGQF NGNSFTSYKD SADRTTRVIS TLKISQLIIL
201 QKSTTRVGS G AGRKASSTVL TLQASEGITS DKNAEISLYD GATLNLASSS
251 VKLMGNVWVG RLQYVGAYLA PSYSTINTSK VTGEVNFNHL TVGDKNAAQA
301 GIIANKKTNI GTLDLWQSAG LNIIAPPEGG YKDKPNNTPS QSGAKNDKNE
351 SAKNDKQESS QNNSNTQVIN PPNSAQKTEV QPTQVIDGPF AGGKDTVVNI
401 NRINTNADGT IRVGGFKASL TTNA AHLHIG KGGVNLSNQA SGRSLIVENL
451 TGNITVDGPL RVNNQVGGYA LAGSSANFEF KAGTDTKNGT ATFNNDISLG
501 RFVNLKVDAH TANFKGIDTG NGGFNTLDFS GVTDKVNINK LITASTNVAV
551 KNFNINELIV KTNGISVGEY THFSEDIGSQ SRINTVRLET GTRSLFSGGV
601 KFKGGEK LVI DEFYYSPWNY FDARNIKNVE ITNKLAFGPQ GSPWGTSKLM
651 FNNLT LGQNA VMDYSQFLNL TIQGDFINNQ GTINYLVRRG KVATLSVGNA
701 AAMMFNNDID SATGFYKPLI KINSAQDLIK NTEHVLLKAK IIGYGNVSTG
751 TNGISNVNLE EQFKERLALY NNNNRMDTCV VRNTDDIKAC GMAIGDQSMV
801 NNP DNYKYLI GKAWKNIGIS KTANGSKISV YYLGNSTPTE NGGNTTNLPT
851 NTTSNARSAN NALAQNAPFA QPSATPNLVA INQHDFGTIE SVFELANRSK
901 DIDTLYANS G AQGRDLLQTL LIDSHDAGYA RKMIDATSAN EITKQLNTAT
951 TTLNNIASLE HKTSGLQTLS LSNAMILNSR LVNLSRRHTN HIDSFAKRLQ
1001 ALKDQKFASL ESAAEVLYQF APKYEKPTNV WANAIGGTSL NNGSNASLYG
1051 TSAGVDAYLN GQVEAIVGGF GSYGYSSFNN RANSLNSGAN NTNFGVYSRI
1101 LTNQHEFD FE AQGALGSDQS SLNFKSALLQ DLNQSYHYLA YSAATRASYG
1151 YDFAFFRNAL VLKPSVGVSY NHLGSTNFKS NSTNQVALKN GSSSQHLFNA
1201 SANVEARYYY GDTSYFYMNA GVLQEFHVG SNNAASLNTF KVNAARNPLN
1251 THARVMMGGE LKLAKEVFLN LGVVYLHNL I SNIGHFASNL GMRYSF

FIG. 2

FIG. 3



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CTCCATTTTAAGCAACTCCATAGACCACTAAAGAACTTTTTTTGAGGCTATCTTTGAAA
GCTTAATTATACATGCTATAGTAAGCATGACACACAAACCAAACTATTTTTAGAACGCTT
TCAAAAAGATTCATTTCTTATTTCTTGTTCTTATTAAAGTTCTTTCATTTTAGCAAATTT
CTTTTTTCAATATTAATAATGATTAATGAAAAAAAAAAAAAATGCTTGATATTGTTGTAT
TTGACACTAACAGATACCGATAGGTATGAACTAGGTATAGTAAGGAGAAACAATGACT
M T
AATAATCTTCAAGTAGCTTTTCTTAAAGTTGATAACGCTGTCGCTTCATACGATCCTGAT
23 N N L Q V A F L K V D N A V A S Y D P D
CAATTAAGGGAAGAATACTCCAATAAAGCGATCAAAAATCCTACCAAAAAGAATCAGTAT
63 Q L R E E Y S N K A I K N P T K K N Q Y
GAATCTTCCACAAAGAGCTTTCAGAAATTTGGGGATCAGCGTTACCGAATTTTCACAAGT
103 E S S T K S F Q K F G D Q R Y R I F T S
GAAAATATCATACAACCCCTATCCTTGATGATAAAGAGAAAGCGGAGTTTTTGAAATCT
143 E N I I Q P P I L D D K E K A E F L K S
ATGGGCGTGTTTGATGAGTCCTTGAAAGAAAGGCAAGAAGCAGAAAAAATGGGAGAGCCT
183 M G V F D E S L K E R Q E A E K N G E P
GATGTCAAAGAAGCAATCAATCAAGAACCAGTCCCCATGTCCAACCAGATATAGCCACT
223 D V K E A I N Q E P V P H V Q P D I A T
AATTTTTCTAAATTCCTCTTGCGATATGGAAATGTTAGATGTTGAGGGAGTCGCTGAC
263 N F S K F T L G D M E M L D V E G V A D
TTAATGGGGAGTCATAATGGCATAGAACCTGAAAAAGTTTCATTGTTGTATGGGGGCAAT
303 L M G S H N G I E P E K V S L L Y G G N
AACAATGTGGCTACAATAATTAATGTGCATATGAAAAACGGCAGTGGCTTAGTCATAGCA
343 N N V A T I I N V H M K N G S G L V I A
GGCTCACAACGAGCATTAAAGTCAAGAAGAGATCCAAAACAAAATAGATTTTCATGGAATTT
383 G S Q R A L S Q E E I Q N K I D F M E F
ACTGAGATTAAAGATTTCCAAAAGACTCTAAGGCTTATTTAGACGCCCTAGGGAATGAT
423 T E I K D F Q K D S K A Y L D A L G N D
AATGGGGATTTGAGCTACACTCTCAAAGATTATGGGAAAAAGCAGATAAAGCTTTAGAT
463 N G D L S Y T L K D Y G K K A D K A L D
TATTCTAATTTCAAATACACCAACGCCTCCAAGAATCCAATAAGGGTGTAGGCGTTACG

FIG. 4A

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ATCTGTCCTATTGATTTGTTTTCCATTTTGTTC	120
CATGTGCTCACCTTGACTAACCATTTCTCCAAC	240
TTGTTAATTGTGGGTAAAAATGTGAATCGTCCT	360
AATGAGAATGTTCAAAGACATGAATTGACTACT	480
AACGAAACCATTGACCAACAACCACAAACCGAAG	600
N E T I D Q Q P Q T E A A F N P Q Q F I	
CAAAAACCAATCGTTGATAAGAACGATAGGGATA	720
Q K P I V D K N D R D N R Q A F E G I S	
TTTTCAGACTTTATCAATAAGAGCAATGATTTA	840
F S D F I N K S N D L I N K D N L I D V	
TGGGTGTCCCATCAAAACGATCCGTCTAAATCA	960
W V S H Q N D P S K I N T R S I R N F M	
GCCAAACAATCTTTTGCAGGAATCATTATAGGGA	1080
A K Q S F A G I I I G N Q I R T D Q K F	
ACTGGTGGGGATTGGTTGGATATTTTTCTCTCAT	1200
T G G D W L D I F L S F I F D K K Q S S	
ACCACCACCGACATACAAGGCTTACCGCCTGAAG	1320
T T T D I Q G L P P E A R D L L D E R G	
ATTGATCCCAATTACAAGTTCAATCAATTATTGAT	1440
I D P N Y K F N Q L L I H N N A L S S V	
GGTGGTCCTGGAGCTAGGCATGATTGGAACGCCA	1560
G G P G A R H D W N A T V G Y K D Q Q G	
GGTGGTGAGAAAGGGATTAACAACCCTAGTTTT	1680
G G E K G I N N P S F Y L Y K E D Q L T	
CTTGACAAAATAATGCTAAATTAGACAACCTTGAG	1800
L A Q N N A K L D N L S E K E K E K F R	
CGTATTGCTTTTGTTCATAAAAAGACACAAACAT	1920
R I A F V S K K D T K H S A L I T E F G	
AGGGAGAAAAATGTTACTCTTCAAGGTAGCCTAA	2040
R E K N V T L Q G S L K H D G V M F V D	
AATGGCGTTTCCCATTTAGAAGTAGGCTTTAACA	2160

FIG. 4B

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503 Y S N F K Y T N A S K N P N K G V G V T
TTAAATAATCTCGCTATCACTAGTTTCGTAAGGCGGAATTTAGAGGATAAACTAACCCT
543 L N N L A I T S F V R R N L C D K L T T
GAATTGGTTGGAAAACTTTAACTTCAATAAAGCTGTAGCTGACGCTAAAAACACAGGC
583 E L V G K T L N F N K A V A D A K N T G
CATTTAGAGAAAGAAGTAGAGAAAAAATTGGAGAGCAAAAGCGGCAACAAAAATAAAATG
623 H L E K E V E K K L E S K S G N K N K M
GCTAATAGAGACGCAAGAGCAATCGCTTACGCTCAGAATCTTAAAGGCATCAAAAGGGAA
663 A N R D A R A I A Y A Q N L K G I K R E
GAATTCAAAAATGGCAAAAATAAGGATTTTCAGCAAGGCAGAAGAACTAAAGCCCTT
703 E F K N G K N K D F S K A E E T L K A L
AATGCAGCTTTGAATGAATTCAAAAATGGCAAAAATAAGGATTTTCAGCAAGGTAACGCAA
743 N A A L N E F K N G K N K D F S K V T Q
AAAGTTGATAATCTCAATCAAGCGGTATCAGTGGCTAAAGCAACGGGTGATTTTCAGTAGG
783 K V D N L N Q A V S V A K A T G D F S R
CAAAAAAATGAAAGTCTCAATGCTAGAAAAAATCTGAAATATATCAATCCGTAAAGAAT
823 Q K N E S L N A R K K S E I Y Q S V K N
AAAACTTTTCGGACATCAAGAAAGAGTTGAATGCAAACTTGGAAATTTCAATAACAAT
863 K N F S D I K K E L N A K L G N F N N N
CAAGCAGCTAGCCTTGAAGAACCCATTTACGCTCAAGTTGCTAAAAAGGTAAATGCAAAA
903 Q A A S L E E P I Y A Q V A K K V N A K
CCTTTGAAAAGGCATGATAAAGTTGATGATCTCAGTAAGGTAGGGCTTTCAAGGAATCAA
943 P L K R H D K V D D L S K V G L S R N Q
TTTGGCAATCTAGAGCAAACGATAGACAAGCTCAAAGATTCTACAAACACAATCCCATG
983 F G N L E Q T I D K L K D S T K H N P M
TACGCTACTAACAGCCACATACGCATTAATAGCAATATCAAAAATGGAGCAATCAATGAA

FIG. 4C

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N G V S H L E V G F N K V A I F N L P D
AAAGGATTGTCCCCACAAGAAGCTAATAAGCTTATCAAAGATTTTTTGAGCAGCAACAAA 2280
K G L S P Q E A N K L I K D F L S S N K
AATTATGATGAAGTGAAAAAGCTCAGAAAGATCTTGAAAAATCTCTAAGGAAACGAGAG 2400
N Y D E V K K A Q K D L E K S L R K R E
GAAGCAAAAGCTCAAGCTAACAGCCAAAAAGATGAGATTTTTGCGTTGATCAATAAAGAG 2520
E A K A Q A N S Q K D E I F A L I N K E
TTGTCTGATAAACTTGAAAATGTCAACAAGAATTTGAAAGACTTTGATAAATCTTTTGAT 2640
L S D K L E N V N K N L K D F D K S F D
AAAGGTTCTGGTGAAAGATTTAGGTATCAATCCAGAATGGATTTCAAAGTTGAAAACCTT 2760
K G S V K D L G I N P E W I S K V E N L
GCAAAAAGCGACCTTGAAAATTCGGTTAAAGATGTGATCATCAATCAAAGGTAACGGAT 2880
A K S D L E N S V K D V I I N Q K V T D
GTAGAGCAAGCGTTAGCCGATCTCAAAAATTTCTCAAAGGAGCAATTGGCCCAACAAGCT 3000
V E Q A L A D L K N F S K E Q L A Q Q A
GGTGTGAATGGAACCCTAGTCGGTAATGGGTTATCTCAAGCAGAAGCCACAACCTCTTCT 3120
G V N G T L V G N G L S Q A E A T T L S
AACAAATATGGACTCAAAAACGAACCCATTTATGCTAAAGTTAATAAAAAGAAAGCAGGG 3240
N N N G L K N E P I Y A K V N K K K A G
ATTGACCGACTCAATCAAATAGCAAGTGGTTTGGGTGTTGTAGGGCAAGCAGCGGGCTTC 3360
I D R L N Q I A S G L G V V G Q A A G F
GAATTGGCTCAGAAAATTGACAATCTCAATCAAGCGGTATCAGAAGCTAAAGCAGGTTTT 3480
E L A Q K I D N L N Q A V S E A K A G F
AATCTATGGGTTGAAAGTGCAAAAAAGTACCTGCTAGTTTGTGAGCGAAACTAGACAAT 3600
N L W V E S A K K V P A S L S A K L D N
AAAGCGACCGGCATGCTAACGCAAAAAACCCTGAGTGGCTCAAGCTCGTGAATGATAAG 3720

FIG. 4D

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1023 Y A T N S H I R I N S N I K N G A I N
ATAGTTGCGCATAATGTAGGAAGCGTTCCTTTGTCAGAGTATGATAAAATTGGCTTC
1063 I V A H N V G S V P L S E Y D K I G F
GTAAAGACACTAATTCTGGCTTTACGCAATTTTAAACCAATGCATTTTCTACAGCA
1103 V K D T N S G F T Q F L T N A F S T A
GGTTTCCAAAATCTTAAAGGATTAAGGAATACCAAAAACGCAAAAACCACCCCTTG
1143 G F Q K S
TGAATGCTACCAATTCATGGTATCATATCCCATACATTTCGTATCTAGCGTAGGAAG
AACTCTGTAAAATCCCTATTATAGGGACACAGAGTGAGAACCAAACTCTCCCTACGG
GACAGACACTAACGAAAGGCTTTGTTCTTTAAAGTCTGCATGGATATTTCTACCCC
CGAAAATTAATTAAGGGTTATAAAGAGAGCATAAACTAGAAAAACAAGTAGCTATA
GAAAAATCAGAAAAACCATAGGAATTATCACACCTTATAATGCCCAAAAAGACGCT
ATGCCTTTCAAGGTGAAGAGGCAGATATTATTATTCCACCGTGAAAACCTTG
ATCTCATTTTTGTGGGTAAAAGTCTTTCTTTGAGAATTTATGAAGCGATGAGAAGA
CATTCTTCGCTTCAAACGCTTTCATAAATCTCTAAAGCGCTTTATAATCAACAC
TTATTAGCGTTACAATTTGAGCCATTCTTTAGCTTGTTTTCTAGCCAGATCACATC
CTGCAAAATATCCTACAATAGCATCGCCGAATGGATGAGTAGGGGGGGTGTGAAAG
TAAAATAATCACTTCGGGAAAATCTTTAAGGGAGTGAAATAATAACGCATGCAAGTT
TGCGAAACATTCAAATAGCCTTGTTGTTTCAGGGCATTGTCATAAGCGTTGGATTGG
GCTAAAATGCTTGGCTCAATCACGCCACAATAGGGATTTTGAATGCTTTTGCATC
TTGAAAAAATCAAAGCCTCTAAGCCAAATTGCTTGATCGTAGTGGGGTCTTTAGTG
AGGCTTTTTAAAACGCTAAACCCTCCACACCGCTATCAAAAACGCCTATTTTCATG
TCTTCATTGTCCTTAGTTTGTGCAATTTAGAAATAGACAAAGCTT 5925

FIG. 4E

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E K A T G M L T Q K N P E W L K L V N D K
AACCAGAAGAATATGAAAGATTATTCTGATTGTTCAAGTTTTCCACCAAGTTGAACAATGCT 3840
N Q K N M K D Y S D S F K F S T K L N N A
TCTTATTACTGCTTGGCGAGAGAGAAAATGCGGAGCATGGAATCAAGAACGTTAATACAAAAGGT 3960
S Y Y C L A R E N A E H G I K N V N T K G
CTAAAAGCGAGGGGTTTTTTAATACTCCTTAGCAGAAATCCCAATCGTCTTTAGTATTTGGGA 4080

TGTGCAAAGTTACGCCTTTGGAGATATGATGTGTGAGACCTGTAGGGAATGCGTTGGAGCTCA 4200
GCAACATCAGCCTAGGAAGCCCAATCGTCTTTAGCGGTTGGGCACTTCACCTTAAAATATCCC 4320
AAAAAGACTTAACCTTTGCTTAAATTAAGTTTGATTGTGCTAGTGGGTTGCTGCTATAGTG 4440
ACAAAGATCAAGTTCAAAAAATCATAGAGCTTTTAGAGCAAATTGATCGCGCTCTTAACCAAA 4560
TGCGATCAGAAGTGGAATAACGGCTTCAAGAATTTTGATGAGCTCAAAATAGACACTGTGG 4680
GTAATCTTTCTTTCTTGCTAGATTCTAAACGCTTGAATGTGGCTATTTCTAGGGCAAAAGAAA 4800
ATATCTTTAGCGCTATTTTGCAAGTCTGTAGATAGGTAATCTTTTCCAAAGATAATCATTAGA 4920
AATACCCTTATAGTGTGAGCTATAGCCCTTTTGGGAATTGAGTTATTTTGACTTTAAATTT 5040
GCCGCTCGCATGAAATTCCACTTTAGGGAATGCGTGTGCATTTTTTTAAGGGCGTATTTTG 5160
GGCAAAATGCTCCATAAAATAGCCCTCAATTTTTTGAGCGATTAAGGGAAAATGCGTGCAACC 5280
TCTAACAATTCGCCCTCTAAATACTTTCTTCAATCAAAGGCACAAAAGAGAAGTGGCTAAA 5400
ATCGTCGCTTTTGTCCCTAGCACTAAAATAGGGGCGTTTTTATCTTTTACTTGTGCTTGATC 5520
TCTTCTAAAGCTAGAGCGCTCGCTGTGTTGCATGCCACAATCAATAATTCAATCTGGTGGGT 5640
CCATAAGGCACTCTAGCCGTATCGCCATAATAGATGATTTTCATCAAATAATTGCGCTTTTAAA 5760
ACACTTTTTTAATTTAATGGGATTAATTAGGGATTTTATTTTTCATTCATTAAGTTTAAAAAT 5880

FIG. 4F

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10 30 50
AAGCTTGCTGTCATGATCACAAAAACACTAAAAACATTATTATTAAGGATACAAAATG
M
70 90 110
GCAAAAGAAATCAAATTTTCAGATAGTGCGAGAAACCTTTTATTTGAAGGCGTGAGGCAA
A K E I K F S D S A R N L L F E G V R Q
130 150 170
CTCCATGACGCTGTCAAAGTAACCATGGGGCCAAGAGGCAGGAATGTATTGATCCAAAAA
L H D A V K V T M G P R G R N V L I Q K
190 210 230
AGCTATGGCGCTCCAAGCATCACCAAAGACGGCGTGAGCGTGGCTAAAGAGATTGAATTA
S Y G A P S I T K D G V S V A K E I E L
250 270 290
AGTTGCCAGTAGCTAACATGGGCGCTCAACTCGTTAAAGAAGTAGCGAGCAAAACCGCT
S C P V A N M G A Q L V K E V A S K T A
310 330 350
GATGCTGCCGGCGATGGCAGCACACAGCGACCGTGCTAGCTTATAGCATTTTTAAAGAA
D A A G D G T T T A T V L A Y S I F K E
370 390 410
GGTTTGAGGAATATCACGGCTGGGGCTAACCCCTATTGAAGTGAAACGAGGCATGGATAAA
G L R N I T A G A N P I E V K R G M D K
430 450 470
GCTGCTGAAGCGATCATTAATGAGCTTAAAAAAGCGAGCAAAAAAGTAGGCGGTAAAGAA
A A E A I I N E L K K A S K K V G G K E
490 510 530
GAAATCACCCAAGTGGCGACCATTCTGCAAACTCCGATCACAATATCGGGAAACTCATC
E I T Q V A T I S A N S D H N I G K L I
550 570 590
GCTGACGCTATGGAAAAAGTGGGTAAAGACGGCGTGATCACCGTTGAGGAAGCTAAGGGC
A D A M E K V G K D G V I T V E E A K G
610 630 650
ATTGAAGATGAATTGGATGTCGTAGAAGGCATGCAATTTGATAGAGGCTACCTCTCCCT
I E D E L D V V E G M Q F D R G Y L S P

FIG. 5A

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670 690 710
 TATTTTGTAAACGAACGCTGAGAAAATGACCGCTCAATTGGATAATGCTTACATCCTTTTA
 Y F V T N A E K M T A Q L D N A Y I L L
 730 750 770
 ACGGATAAAAAAATCTCTAGCATGAAAGACATTCTCCCGCTACTAGAAAAAACCATGAAA
 T D K K I S S M K D I L P L L E K T M K
 790 810 HindIII
 GAGGGCAAACCGCTTTTAAATCATCGCTGAAGACATTGAGGGCGAAGCTTTAACGACTCTA
 E G K P L L I I A E D I E G E A L T T L
 850 870 890
 GTGGTGAATAAATTAAGAGGCGTGTGAATATCGCAGCGGTTAAAGCTCCAGGCTTTGGG
 V V N K L R G V L N I A A V K A P G F G
 910 930 950
 GACAGAAGAAAAGAAATGCTCAAAGACATCGCTATTTTAACCGGCGGTCAAGTCATTAGC
 D R R K E M L K D I A I L T G G Q V I S
 970 990 1010
 GAAGAATTGGGCTTGAGTCTAGAAAACGCTGAAGTGGAGTTTTTAGGCAAAGCTGGAAGG
 E E L G L S L E N A E V E F L G K A G R
 1030 1050 1070
 ATTGTGATTGACAAAGACAACACCACGATCGTAGATGGCAAAGGCCATAGCGATGATGTT
 I V I D K D N T T I V D G K G H S D D V
 1090 1110 1130
 AAAGACAGAGTCGCGCAGATCAAAACCCAAATTGCAAGTACGACAAGCGATTATGACAAA
 K D R V A Q I K T Q I A S T T S D Y D K
 1150 1170 1190
 GAAAAATTGCAAGAAAGATTGGCTAAACTCTCTGGCGGTGTGGCTGTGATTAAAGTGGGC
 E K L Q E R L A K L S G G V A V I K V G
 1210 1230 1250
 GCTGCGAGTGAAGTGGAAATGAAAGAGAAAAAAGACCGGGTGGATGACGCGTTGAGCGCG
 A A S E V E M K E K K D R V D D A L S A
 1270 1290 1310
 ACTAAAGCGGCGGTTGAAGAAGGCATTGTGATTGGTGGCGGTGCGGCTCTCATTGCGCGG
 T K A A V E E G I V I G G G A A L I R A

FIG. 5B

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1330 1350 1370
GCTCAAAAAGTGCATTTGAATTTGCACGATGATGAAAAAGTGGGCTATGAAATCATCATG
A Q K V H L N L H D D E K V G Y E I I M
1390 1410 1430
CGCGCCATTAAAGCCCCATTAGCTCAAATCGCTATCAACGCTGGTTATGATGGCGGTGTG
R A I K A P L A Q I A I N A G Y D G G V
1450 1470 1490
GTCGTGAATGAAGTAGAAAAACACGAAGGGCATTTTGGTTTTAACGCTAGCAATGGCAAG
V V N E V E K H E G H F G F N A S N G K
1510 1530 1550
TATGTGGATATGTTTAAAGAAGGCATTATTGACCCCTTAAAAGTAGAAAGGATCGCTCTA
Y V D M F K E G I I D P L K V E R I A L
1570 1590 1610
CAAAATGCGGTTTTCGGTTTCAAGCCTGCTTTTAACACAGAAGCCACCGTGCATGAAATC
Q N A V S V S S L L L T T E A T V H E I
1630 1650 1670
AAAGAAGAAAAAGCGACTCCGGCAATGCCTGATATGGGTGGCATGGGCGGTATGGGAGGC
K E E K A T P A M P D M G G M G G M G G
1690 1710 1730
ATGGGCGGCATGATGTAAGCCCGCTTGCTTTTTAGTATAATCTGCTTTTAAAATCCCTTC
M G G M M *
1750 1770 1790
TCTAAATCCCCCCTTTCTAAAATCTCTTTTTTGGGGGGTGCTTTGATAAACCGCTCG

1810 1830
CTTGTA AAAACATGCAACAAAAAATCTCTGTTAAGCTT

FIG. 5C